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<211> 1503
<212> DNA
<213> Homo sapiens

<400> 1
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ttcccagtca tctcactcta cctaatgggt gaggttacca accagtcctt ccgcatcacc    1080
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gaagactgtg ctacaacat tccacagaca gatgagtcaa ccctcatgac catagcctat     1380
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aag                                                                   1503
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<210> 2
<211> 501
<212> PRT
<213> Homo sapiens

<400> 2

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Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
                35                  40                  45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
            50                  55                  60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65                  70                  75                  80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
                85                  90                  95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
                100                 105                 110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
            115                 120                 125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
            130                 135                 140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145                 150                 155                 160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
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Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
                180                 185                 190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
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Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
            210                 215                 220
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225                 230                 235                 240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
                245                 250                 255
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
                260                 265                 270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
            275                 280                 285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
            290                 295                 300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305                 310                 315                 320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
                325                 330                 335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
                340                 345                 350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
            355                 360                 365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
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Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385                     390                     395                 400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
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Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
                420                     425                     430
Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
            435                     440                     445
Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
            450                     455                     460
Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
465                     470                     475                 480
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Ile Ser Leu Leu Lys
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<210> 3
<211> 24
<212> DNA
<213> Homo sapiens

<400> 3
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<210> 4
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<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 4
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<210> 5
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<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 5
gagagacgar garccwgaag aacc                                          24

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
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      ID NO: 2

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<211> 23
<212> DNA
<213> Artificial Sequence

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<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 7
agagacgarg arccsgagga gcc                                          23

<210> 8
<211> 23
<212> DNA
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<220>
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      ID NO: 2

<400> 8
agagacgarg arccsgaaga gcc                                          23

<210> 9
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 9
agagacgarg arccsgaaga acc                                          23

<210> 10
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
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      ID NO: 2

<400> 10
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<210> 11
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 11
cgtcacagrt trtcaaccat ctc                                          23
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<210> 12
<211> 23
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<213> Artificial Sequence

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      ID NO: 2

<400> 12
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<210> 13
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<400> 13
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<210> 14
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<212> DNA
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<400> 14
cgtcacagrt trtcgaccat ctc   23

<210> 15
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<220>
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<400> 15
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<210> 16
<211> 23
<212> DNA
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<220>
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<400> 16
cgtcacagrt trtctaccat ttc   23

<210> 17

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<211> 23
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<220>
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<400> 17
cgtcacagrt trtccaccat ttc                                          23

<210> 18
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
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<400> 18
cgtcacagrt trtcgaccat ttc                                          23

<210> 19
<211> 20
<212> DNA
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<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 19
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<210> 20
<211> 26
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<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 20
cagcataggc cagccccagg atgcct                                       26

<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer derived from SEQ
      ID NO: 2

<400> 21
gtgatggcag caatgttggc acgc                                         24

<210> 22
<211> 17
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<212> DNA
<213> Artificial Sequence

<220>
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<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 22
gaygargagc cngagga   17

<210> 23
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 23
gaygargagc cngaaga   17

<210> 24
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 24
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<210> 25
<211> 17
<212> DNA
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<220>
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<221> misc_feature
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<400> 25
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<210> 26
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<221> misc_feature
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<400> 26
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<210> 27
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<220>
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<221> misc_feature
<222> (1)...(15)
<223> n = A,T,C or G

<400> 27
rttrtcnacc atctc   15

<210> 28
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<220>
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<221> misc_feature
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<223> n = A,T,C or G

<400> 28
tcnaccatyt cnacaaa   17

<210> 29
<211> 17
<212> DNA
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<220>
<223> Degenerate oligonucleotide primer

<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 29
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<210> 30
<211> 27
<212> DNA
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<220>
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<400> 30
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<210> 31
<211> 27
<212> DNA
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<220>
<223> Degenerate oligonucleotide primer

<400> 31
atattctaga gaygargagc cggaaga                                      27

<210> 32
<211> 27
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<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<400> 32
atattctaga gaygargagc ccgaaga                                      27

<210> 33
<211> 27
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<220>
<223> Degenerate oligonucleotide primer

<400> 33
atattctaga gaygargagc ctgaaga                                      27

<210> 34
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<221> misc_feature
<222> (1)...(30)
<223> n = A,T,C or G

<400> 34
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<210> 35
<211> 30
<212> DNA
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<220>
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<223> Degenerate oligonucleotide primer

<221> misc_feature
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<223> n = A,T,C or G

<400> 35
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<210> 36
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<221> misc_feature
<222> (1)...(30)
<223> n = A,T,C or G

<400> 36
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<210> 37
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<212> DNA
<213> Artificial Sequence

<220>
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<221> misc_feature
<222> (1)...(30)
<223> n = A,T,C or G

<400> 37
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<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<400> 38
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<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<400> 39
aaagctgccc ctccggccgg g   21

<210> 40
<211> 26
<212> DNA
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<220>
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<400> 40
agctcgttta gtgaaccgtc agatcg   26

<210> 41
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate oligonucleotide primer

<400> 41
acctacaggt ggggtctttc attccc   26

<210> 42
<211> 2348
<212> DNA
<213> Homo sapiens

<400> 42
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cctcccccacc caccaaatgc ctctgccttg atggagaagg aaaaggctgg caaggtgggt    1980
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tccagggact gtacctgtag gaaacagaaa agagaagaaa gaagcactct gctggcggga    2040
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<210> 43
<211> 456
<212> PRT
<213> Homo sapiens

<400> 43

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            20                  25                  30
Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp
            35                  40                  45
Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu
    50                  55                  60
His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg
65                  70                  75                  80
Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu
                85                  90                  95
Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg
                100                 105                 110
Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly
            115                 120                 125
Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg
    130                 135                 140
Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr
145                 150                 155                 160
His Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro
                165                 170                 175
Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile
                180                 185                 190
Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro
                195                 200                 205
Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile
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Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys
225                 230                 235                 240
Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val
                245                 250                 255
Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys
            260                 265                 270
Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala
            275                 280                 285
Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met
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Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln
305                 310                 315                 320
Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr
                325                 330                 335
Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val
            340                 345                 350
Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile
            355                 360                 365
Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala
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      370                         375                         380
Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr
385                         390                         395                         400
Asn Ile Pro Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val
                    405                         410                         415
Met Ala Ala Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val
                420                         425                         430
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<210> 44
<211> 2348
<212> DNA
<213> Homo sapiens

<400> 44

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caaattcctc gtccccctttt ttgctggacg gtagggatgg ggattctcgg gacccctcct  11820
cttcctcttc aaggtcacca gacagagatg ctactggggc aacggaagaa aagctgggtg  11880
cggcctgtga ggatcagctt atcgatgata agctgtcaaa catgagaatt cttgaagacg  11940
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aaagggcctc gtgatacgcc tattttttata ggttaatgtc atgataataa tggtttctta   12000
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aatacattca aatatgtatc cgctcatgag acaataaccc tgataaatgc ttcaataata   12120
ttgaaaaagg aagagtatga gtattcaaca tttccgtgtc gcccttattc ccttttttgc   12180
ggcattttgc cttcctgttt ttgctcaccc agaaacgctg gtgaaagtaa aagatgctga   12240
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cattggcgaa ttcgaacacg cagatgcagt cggggcggcg cggtcccagg tccacttcgc   14460
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cccgcgctat gacggcaata aaaagacaga ataaaacgca cgggtgttgg gtcgtttgtt    15660
cataaacgcg gggttcggtc ccagggctgg cactctgtcg ataccccacc gagaccccat    15720
tggggccaat acgcccgcgt ttcttccttt tccccacccc accccccaag ttcgggtgaa    15780
ggcccagggc tcgcagccaa cgtcggggcg gcaggccctg ccatagccac tggccccgtg    15840
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gcgttgcgtg gggtctggtc cacgactgga ctgagcagac agacccatgg tttttggatg    15960
gcctgggcat ggaccgcatg tactggcgcg acacgaacac cgggcgtctg tggctgccaa    16020
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<210> 49
<211> 32
<212> DNA
<213> Homo sapiens

<400> 49
cccggccgga ggggcagctt tgtggagatg gt   32

<210> 50
<211> 11
<212> PRT
<213> Homo sapiens

<400> 50
Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
1   5   10

<210> 51
<211> 5
<212> PRT
<213> Homo sapiens

<400> 51
Val Asn Leu Asp Ala
1   5

<210> 52
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic oligopeptide substrate

<400> 52
Ser Glu Val Asn Leu Asp Ala Glu Phe
1   5

<210> 53
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic oligopeptide substrate

<400> 53
Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile
1   5   10   15

```
Lys Thr Glu Glu Ile Ser Glu Val Asn Leu Asp Ala Glu Phe
            20              25              30
```

<210> 54
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<223> Wild type Amyloid Precursor Protein cleavage site
      (fragment)

<400> 54
```
Val Lys Met Asp Ala
 1               5
```

<210> 55
<211> 24
<212> PRT
<213> Homo sapiens

<400> 55
```
Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val
 1               5                  10                  15
Glu Met Val Asp Asn Leu Arg Gly
            20
```

<210> 56
<211> 15
<212> PRT
<213> Homo sapiens

<400> 56
```
Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg
 1               5                  10                  15
```

<210> 57
<211> 419
<212> PRT
<213> Homo sapiens

<400> 57
```
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
 1               5                  10                  15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
            20              25              30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
         35              40              45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
      50              55              60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65               70              75                      80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
                85              90              95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
            100             105             110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
         115             120             125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
      130             135             140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
```

```
145                 150                 155                 160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
                165             170             175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
            180             185             190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
        195             200             205
Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
    210             215             220
Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225             230             235             240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
                245             250             255
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
            260             265             270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
        275             280             285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
    290             295             300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305             310             315             320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
                325             330             335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
            340             345             350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
        355             360             365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
    370             375             380
Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385             390             395             400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
            405             410             415
Val Ser Ala


<210> 58
<211> 407
<212> PRT
<213> Homo sapiens

<400> 58
Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val
 1               5               10              15
Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val
            20              25              30
Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp
        35              40              45
Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu
    50              55              60
His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg
65              70              75              80
Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu
            85              90              95
Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg
            100             105             110
Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly
        115             120             125
Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg
    130             135             140
Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr
```

```
145                     150                     155                     160
His Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro
                    165                     170                     175
Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile
                180                     185                     190
Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro
                195                     200                     205
Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile
        210                     215                     220
Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys
225                     230                     235                     240
Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val
                245                     250                     255
Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys
                260                     265                     270
Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala
                275                     280                     285
Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met
        290                     295                     300
Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln
305                     310                     315                     320
Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr
                325                     330                     335
Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val
                340                     345                     350
Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile
                355                     360                     365
Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala
        370                     375                     380
Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr
385                     390                     395                     400
Asn Ile Pro Gln Thr Asp Glu
                405
```

```
<210> 59
<211> 452
<212> PRT
<213> Homo sapiens


<400> 59
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
1               5                   10                  15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
                20                  25                  30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
            35                  40                  45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
        50                  55                  60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65                  70                  75                  80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
                85                  90                  95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
            100                 105                 110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
        115                 120                 125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
        130                 135                 140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145                 150                 155                 160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
```

```
                   165                     170                     175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
            180                     185                     190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
        195                     200                     205
Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
    210                     215                     220
Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225                     230                     235                     240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
                245                     250                     255
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
            260                     265                     270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
        275                     280                     285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
        290                     295                     300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305                     310                     315                     320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
                325                     330                     335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
            340                     345                     350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
        355                     360                     365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
    370                     375                     380
Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385                     390                     395                     400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
                405                     410                     415
Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
                420                     425                     430
Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
            435                     440                     445
Gln Thr Asp Glu
            450
```

<210> 60
<211> 420
<212> PRT
<213> Homo sapiens

<400> 60

```
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
 1               5                  10                  15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
            20                  25                  30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
        35                  40                  45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
        50                  55                  60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65                  70                  75                  80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
                85                  90                  95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
            100                 105                 110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
        115                 120                 125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
```

```
          130                    135                    140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145                    150                    155                    160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
                   165                    170                    175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
               180                    185                    190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
               195                    200                    205
Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
           210                    215                    220
Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225                    230                    235                    240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
                   245                    250                    255
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
               260                    265                    270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
               275                    280                    285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
           290                    295                    300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305                    310                    315                    320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
               325                    330                    335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
               340                    345                    350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
               355                    360                    365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
           370                    375                    380
Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385                    390                    395                    400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
               405                    410                    415
Val Ser Ala Cys
               420
```

<210> 61
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide inhibitor

<221> MOD_RES
<222> 4
<223> Xaa = hydroxyethlene

<400> 61
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Glu Val Met Xaa Ala Glu Phe
 1                5
```

<210> 62
<211> 26
<212> PRT
<213> Homo sapiens

<400> 62
```
Leu Met Thr Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe Met
```

```
1                   5                   10                      15
Leu Pro Leu Cys Leu Met Val Cys Gln Trp
            20                  25
```

```
<210> 63
<211> 33
<212> PRT
<213> Homo sapiens

<220>
<223> P26-P4'sw peptide substrate

<400> 63
Cys Gly Gly Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser Gly Leu
1               5                   10                  15
Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Asn Leu Asp Ala Glu
            20                  25                  30
Phe


<210> 64
<211> 29
<212> PRT
<213> Homo sapiens

<220>
<223> P26-P1' peptide substrate with CGG linker

<400> 64
Cys Gly Gly Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser Gly Leu
1               5                   10                  15
Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Asn Leu
            20                  25

<210> 65
<211> 501
<212> PRT
<213> Mus musculus

<400> 65
Met Ala Pro Ala Leu His Trp Leu Leu Leu Trp Val Gly Ser Gly Met
1               5                   10                  15
Leu Pro Ala Gln Gly Thr His Leu Gly Ile Arg Leu Pro Leu Arg Ser
            20                  25                  30
Gly Leu Ala Gly Pro Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
        35                  40                  45
Glu Glu Ser Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
    50                  55                  60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65                  70                  75                  80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
            85                  90                  95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
            100                 105                 110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
        115                 120                 125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
        130                 135                 140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145                 150                 155                 160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
```

```
                        165                     170                     175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
                180                     185                     190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Ile Pro
        195                     200                     205
Asn Ile Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
    210                     215                     220
Thr Glu Ala Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225                     230                     235                     240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
                245                     250                     255
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
                260                     265                     270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
        275                     280                     285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
    290                     295                     300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305                     310                     315                     320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
                325                     330                     335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
                340                     345                     350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
                355                     360                     365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
    370                     375                     380
Val Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385                     390                     395                     400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
                405                     410                     415
Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
        420                     425                     430
Gly Pro Phe Val Thr Ala Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
        435                     440                     445
Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
    450                     455                     460
Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
465                     470                     475                     480
Arg Cys Leu Arg Cys Leu Arg His Gln His Asp Asp Phe Gly Asp Asp
                485                     490                     495
Ile Ser Leu Leu Lys
                500

<210> 66
<211> 480
<212> PRT
<213> Homo sapiens

<400> 66
Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser Gly Leu Gly Gly Ala
 1               5                   10                      15
Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu
            20                      25                      30
Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly
        35                      40                      45
Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro
    50                      55                      60
Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val
65                      70                      75                      80
Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu
```

```
                        85                    90                    95
Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr
            100                       105                   110
Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro
            115                   120                   125
His Gly Pro Asn Val Thr Val Arg Ala Asn Ile Ala Ala Ile Thr Glu
        130                   135                   140
Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly
145                   150                   155                   160
Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe
                165                   170                   175
Phe Asp Ser Leu Val Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu
            180                   185                   190
Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala
            195                   200                   205
Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr
        210                   215                   220
Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu
225                   230                   235                   240
Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp
                245                   250                   255
Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr
                260                   265                   270
Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile
            275                   280                   285
Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly
        290                   295                   300
Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe
305                   310                   315                   320
Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe
                325                   330                   335
Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val
            340                   345                   350
Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser
            355                   360                   365
Thr Gly Thr Val Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val
        370                   375                   380
Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His
385                   390                   395                   400
Val His Asp Glu Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr
                405                   410                   415
Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser
                420                   425                   430
Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe
            435                   440                   445
Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp Arg Cys Leu Arg Cys
        450                   455                   460
Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp Ile Ser Leu Leu Lys
465                   470                   475                   480
```

<210> 67
<211> 444

<212> PRT
<213> Homo sapiens

<400> 67
```
Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln
 1               5                   10                  15
Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn
                20                  25                  30
```

```
Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro
        35                  40                  45
His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr
    50                  55                  60
Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp
65                  70                  75                  80
Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn
                85                  90                  95
Val Thr Val Arg Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe
            100                 105                 110
Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala
        115                 120                 125
Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu
    130                 135                 140
Val Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly
145                 150                 155                 160
Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
                165                 170                 175
Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu
            180                 185                 190
Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val
        195                 200                 205
Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr
    210                 215                 220
Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu
225                 230                 235                 240
Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser
                245                 250                 255
Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val
            260                 265                 270
Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser
        275                 280                 285
Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile
    290                 295                 300
Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln
305                 310                 315                 320
Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val
                325                 330                 335
Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala
            340                 345                 350
Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu
        355                 360                 365
Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu
    370                 375                 380
Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser Thr Leu Met Thr
385                 390                 395                 400
Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe Met Leu Pro Leu
                405                 410                 415
Cys Leu Met Val Cys Gln Trp Arg Cys Leu Arg Cys Leu Arg Gln Gln
            420                 425                 430
His Asp Asp Phe Ala Asp Asp Ile Ser Leu Leu Lys
        435                 440
```

```
<210> 68
<211> 395
<212> PRT
<213> Homo sapiens

<400> 68
Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln
 1               5                  10                  15
```

```
Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn
            20                      25                      30
Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro
            35                      40                      45
His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr
    50                      55                      60
Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp
65                      70                      75                  80
Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn
                    85                      90                      95
Val Thr Val Arg Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe
                100                     105                     110
Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala
            115                     120                     125
Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu
    130                     135                     140
Val Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly
145                     150                     155                 160
Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
                165                     170                     175
Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu
            180                     185                     190
Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val
            195                     200                     205
Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr
    210                     215                     220
Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu
225                     230                     235                 240
Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser
                245                     250                     255
Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val
                260                     265                     270
Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser
            275                     280                     285
Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile
    290                     295                     300
Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln
305                     310                     315                 320
Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val
                325                     330                     335
Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala
                340                     345                     350
Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu
            355                     360                     365
Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu
    370                     375                     380
Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu
385                     390                     395
```

```
<210> 69
<211> 439
<212> PRT
<213> Homo sapiens

<400> 69
Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu
 1               5                   10                      15
Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr
            20                      25                      30
Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His
            35                      40                      45
```

```
Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys
    50              55              60
Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly
65              70              75              80
Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala
            85              90              95
Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser
        100             105             110
Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro
    115             120             125
Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His
    130             135             140
Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu
145             150             155             160
Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly
            165             170             175
Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile
            180             185             190
Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn
        195             200             205
Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser
    210             215             220
Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe
225             230             235             240
Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe
            245             250             255
Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly
            260             265             270
Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly
    275             280             285
Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr
    290             295             300
Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys
305             310             315             320
Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile
            325             330             335
Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly
            340             345             350
Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala
            355             360             365
Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn
    370             375             380
Ile Pro Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met
385             390             395             400
Ala Ala Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys
            405             410             415
Gln Trp Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala
            420             425             430
Asp Asp Ile Ser Leu Leu Lys
            435
```

```
<210> 70
<211> 390
<212> PRT
<213> Homo sapiens

<400> 70
Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu
 1               5              10              15
Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr
            20              25              30
```

```
Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His
        35                  40                  45
Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys
    50                  55                  60
Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly
65                  70                  75                  80
Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala
                85                  90                  95
Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser
            100                 105                 110
Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro
        115                 120                 125
Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His
    130                 135                 140
Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu
145                 150                 155                 160
Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly
                165                 170                 175
Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile
            180                 185                 190
Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn
        195                 200                 205
Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser
        210                 215                 220
Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe
225                 230                 235                 240
Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe
                245                 250                 255
Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly
            260                 265                 270
Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly
        275                 280                 285
Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr
    290                 295                 300
Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys
305                 310                 315                 320
Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile
                325                 330                 335
Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly
            340                 345                 350
Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala
        355                 360                 365
Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn
    370                 375                 380
Ile Pro Gln Thr Asp Glu
385                 390


<210> 71
<211> 374
<212> PRT
<213> Homo sapiens


<400> 71
Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val
 1               5                   10                  15
Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val
            20                  25                  30
Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp
        35                  40                  45
Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu
    50                  55                  60
```

```
His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg
65                  70                  75                  80
Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu
                85                  90                  95
Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg
            100                 105                 110
Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly
            115                 120                 125
Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg
            130                 135                 140
Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr
145                 150                 155                 160
His Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro
                165                 170                 175
Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile
            180                 185                 190
Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro
            195                 200                 205
Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile
            210                 215                 220
Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys
225                 230                 235                 240
Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val
                245                 250                 255
Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys
            260                 265                 270
Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala
            275                 280                 285
Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met
            290                 295                 300
Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln
305                 310                 315                 320
Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr
                325                 330                 335
Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val
            340                 345                 350
Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile
            355                 360                 365
Gly Phe Ala Val Ser Ala
    370
```

```
<210> 72
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> P10-P4'staD-V peptide inhibitor

<221> MOD_RES
<222> 10
<223> Xaa is statine moiety

<400> 72
Lys Thr Glu Glu Ile Ser Glu Val Asn Xaa Val Ala Glu Phe
 1               5                   10

<210> 73
<211> 9
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> P4-P4'staD-V peptide inhibitor

<221> MOD_RES
<222> 5
<223> Xaa is statine moiety

<400> 73
Ser Glu Val Asn Xaa Val Ala Glu Phe
 1               5


<210> 74
<211> 431
<212> PRT
<213> Homo sapiens

<400> 74
Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser Gly Leu Gly Gly Ala
 1               5                  10                  15
Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu
            20                  25                  30
Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly
            35                  40                  45
Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro
    50                  55                  60
Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val
65                  70                  75                  80
Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu
            85                  90                  95
Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr
            100                 105                 110
Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro
            115                 120                 125
His Gly Pro Asn Val Thr Val Arg Ala Asn Ile Ala Ala Ile Thr Glu
            130                 135                 140
Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly
145                 150                 155                 160
Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe
            165                 170                 175
Phe Asp Ser Leu Val Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu
            180                 185                 190
Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala
            195                 200                 205
Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr
            210                 215                 220
Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu
225                 230                 235                 240
Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp
            245                 250                 255
Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr
            260                 265                 270
Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile
            275                 280                 285
Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly
            290                 295                 300
Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe
305                 310                 315                 320
Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe
            325                 330                 335
Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val
```

```
                  340                         345                         350
Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser
          355                         360                         365
Thr Gly Thr Val Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val
      370                         375                         380
Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His
385                         390                         395                         400
Val His Asp Glu Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr
                  405                         410                         415
Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu
          420                         425                         430
```

<210> 75
<211> 361
<212> PRT
<213> Homo sapiens

<400> 75
```
Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu
  1               5                  10                         15
Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr
              20                         25                         30
Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His
          35                         40                         45
Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys
      50                         55                         60
Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly
65                         70                         75                         80
Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala
                  85                         90                         95
Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser
              100                        105                        110
Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro
          115                        120                        125
Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His
      130                        135                        140
Val Pro Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu
145                        150                        155                        160
Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly
                  165                        170                        175
Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile
              180                        185                        190
Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn
          195                        200                        205
Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser
          210                        215                        220
Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe
225                        230                        235                        240
Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe
              245                        250                        255
Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly
              260                        265                        270
Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly
          275                        280                        285
Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr
      290                        295                        300
Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys
305                        310                        315                        320
Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile
              325                        330                        335
Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly
```

```
              340                    345                      350
Phe Ala Val Ser Ala Cys His Val His
         355                    360
```

```
<210> 76
<211> 63
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(63)
<223> n = A,T,C or G

<400> 76
garacngayg argarccnga rgarccnggn mgnmgnggnw snttygtnga ratggtngay      60
aay                                                                    63


<210> 77
<211> 21
<212> PRT
<213> Homo sapiens

<400> 77
Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val
 1               5                  10                  15
Glu Met Val Asp Asn
             20


<210> 78
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Peptide inhibitor P3-P4' XD-V

<221> MOD_RES
<222> 3
<223> Xaa is hydroxyethylene or statine

<400> 78
Val Met Xaa Val Ala Glu Phe
 1               5


<210> 79
<211> 11
<212> PRT
<213> Homo sapiens

<400> 79
Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val
 1               5                  10


<210> 80
<211> 419
<212> DNA
<213> Artificial Sequence

<220>
<223> nucleotide insert in vector pCF
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<400> 80
ctgttgggct cgcggttgag gacaaactct tcgcggtctt tccagtactc ttggatcgga   60
aacccgtcgg cctccgaacg gtactccgcc accgagggac ctgagcgagt ccgcatcgac   120
cggatcggaa aacctctcga ctgttggggt gagtactccc tctcaaaagc gggcatgact   180
tctgcgctaa gattgtcagt ttccaaaaac gaggaggatt tgatattcac ctggcccgcg   240
gtgatgcctt tgagggtggc cgcgtccatc tggtcagaaa agacaatctt tttgttgtca   300
agcttgaggt gtggcaggct tgagatctgg ccatacactt gagtgacaat gacatccact   360
ttgcctttct ctccacaggt gtccactccc aggtccaact gcaggtcgac tctagaccc   419

<210> 81
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Peptide inhibitor P4-P4' XD-V

<221> MOD_RES
<222> 4
<223> Xaa is hydroxyethylene or statine

<400> 81
Glu Val Met Xaa Val Ala Glu Phe
 1   5

<210> 82
<211> 9
<212> PRT
<213> Homo sapiens

<220>
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Ser Glu Val Lys Met Asp Ala Glu Phe
 1   5

<210> 83
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<220>
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<210> 84
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<212> PRT
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<220>
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<400> 84
Ser Glu Val Lys Leu Asp Ala Glu Phe
 1   5

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<400> 85
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<210> 86
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<400> 86
Ser Glu Val Asn Phe Asp Ala Glu Phe
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<220>
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Ser Glu Val Lys Met Ala Ala Glu Phe
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<210> 88
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<400> 88
Ser Glu Val Asn Leu Ala Ala Glu Phe
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Ser Glu Val Lys Leu Ala Ala Glu Phe
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<210> 91
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<212> PRT
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<220>
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<400> 91
Ser Glu Val Asn Leu Leu Ala Glu Phe
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<210> 92
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<220>
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<400> 92
Ser Glu Val Lys Leu Leu Ala Glu Phe
 1               5

<210> 93
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<212> PRT
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<220>
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<400> 93
Ser Glu Val Lys Phe Ala Ala Glu Phe
 1               5

<210> 94
<211> 9
<212> PRT
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<220>
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<400> 94
Ser Glu Val Asn Phe Ala Ala Glu Phe
 1               5

<210> 95
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<212> PRT
<213> Artificial Sequence

<220>
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<400> 95
Ser Glu Val Lys Phe Leu Ala Glu Phe
 1               5

<210> 96
<211> 9
<212> PRT
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<220>
<223> APP fragment

<400> 96
Ser Glu Val Asn Phe Leu Ala Glu Phe
 1               5

<210> 97
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<212> PRT
<213> Artificial Sequence

<220>
<223> APP-derived fragment P10-P4'(D-V)

<400> 97
Lys Thr Glu Glu Ile Ser Glu Val Asn Leu Val Ala Glu Phe
 1               5                   10

<210> 98
<211> 35
<212> DNA
<213> Homo sapiens

<400> 98
cccgaggagc ccggccggag gggcagcttt gtcga                          35

<210> 99
<211> 11
<212> PRT
<213> Homo sapiens

<400> 99
Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg
 1               5                   10

<210> 100
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant 293T cells

<400> 100
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```
Thr Gln His Gly Ile Arg Leu Pro Leu Arg
 1               5                   10
```

```
<210> 101
<211> 9
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Recombinant 293T cells
```

```
<400> 101
Met Val Asp Asn Leu Arg Gly Lys Ser
 1               5
```

```
<210> 102
<211> 10
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Recombinant CosA2 cells
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```
<400> 102
Gly Ser Phe Val Glu Met Val Asp Asn Leu
 1               5                   10
```

```
<210> 103
<211> 4
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> APP substrate fragment:WT Sequence
```

```
<400> 103
Val Lys Met Asp
 1
```

```
<210> 104
<211> 4
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> APP substrate fragment:Swedish Sequence
```

```
<400> 104
Val Asn Leu Asp
 1
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